

Serial No. 10/064,939
Docket No. 13DV-13676

REMARKS

In the Office Action, the Examiner reviewed claims 1-31 of the above-identified US Patent Application, with the result that claims 1-6, 8-10, 16-23, 25 and 26 were rejected under 35 USC §§102 and 103, and claims 7, 11-15, 24 and 27-31 were deemed to recite allowable subject matter. In response, Applicants have amended the specification and claims as set forth above. More particularly:

The specification and independent claim 1 have been amended to include yttria as the stabilizer for the hafnia-based compositions. Hafnia-yttria compositions are already recited in dependent claim 14, which depends from claim 1. Further support for this amendment can be found in Applicants' specification at paragraph [0018] and Tables I and II.

Independent claims 1 and 19 have been amended to eliminate the following compositions for the outer coating: zirconia stabilized with dysprosia, zirconia stabilized with ytterbia, and zirconia stabilized with a combination of gadolinium oxide and yttria.

Dependent claims 4, 5, 8, 9, 20, 22, 25 and 26, which are directed to the compositions eliminated from their parent claims 1 and 19, have been cancelled.

Dependent claim 2 has been amended to recite that the outer coating consists of one of the zirconia-based compositions of claim 1.

Serial No. 10/064,939
Docket No. 13DV-13676

Dependent claims 10 and 16 have been amended to recite that the outer coating is one of the hafnia-based compositions of claim 1.

Finally, dependent claims 3 and 6 have been amended to eliminate the term "essentially" from the transitional phrase "consisting essentially of."

Favorable reconsideration and allowance of remaining claims 1-3, 6, 7, 10-19, 21, 23, 24 and 27-31 are respectfully requested in view of the following remarks.

As now amended, independent claims 1 and 19 and their remaining dependent claims encompass the following coating compositions:

- zirconia stabilized with erbia;
- zirconia stabilized with neodymia;
- zirconia stabilized with samarium oxide; and
- hafnia stabilized with dysprosia, gadolinium oxide, samarium oxide, yttria and/or ytterbia.

The claims were rejected under 35 USC §§102 and 103 as being anticipated by and unpatentable over:

- U.S. Patent No. 4,774,150 to Amano et al., cited as disclosing a coating

Serial No. 10/064,939
Docket No. 13DV-13676

composition containing zirconia, yttria and samaria;

- U.S. Patent No. 4,535,033 to Stecura, cited as disclosing a coating composition containing zirconia, yttria and ytterbia;
- U.S. Patent No. 6,025,078 to Rickerby et al., cited as disclosing a coating composition containing zirconia, yttria and one of neodymia, dysprosia, gadolinia, erbia and ytterbia;
- U.S. Patent No. 6,127,006 to Schulz et al., cited as disclosing a coating composition containing zirconia and ytterbia;
- U.S. Patent No. 6,284,323 to Maloney, cited as disclosing a coating composition containing zirconia, yttria and gadolinia; and
- U.S. Patent No. 6,333,118 to Alperine et al., cited as disclosing a coating composition containing zirconia and dysprosia.

In view of the above, none of the cited prior art was applied as disclosing Applicants' claimed hafnia-based compositions. Applicants' further believe that none of the cited prior art discloses a coating composition of zirconia stabilized with erbia, or neodymia, or samarium oxide. At best, Amano et al. disclose a coating composition containing zirconia, yttria (or another stabilizer), and samaria, and Rickerby et al. disclose a coating

Serial No. 10/064,939
Docket No. 13DV-13676

composition containing zirconia, yttria (or another stabilizer), and neodymia or erbia (or another "second metallic oxide"). In Amano et al. and Rickerby et al., yttria is disclosed as the stabilizer for zirconia, and therefore a necessary constituent of their respective coatings. See, for example, Amano et al. at column 1, lines 59-67, and Rickerby et al. at column 2, lines 29-33 and 60-61. Neither Amano et al. nor Rickerby et al. disclose or suggest the use of samaria, neodymia or erbia as the stabilizer for zirconia - instead, their use is limited to combinations with yttria (or another stabilizer).

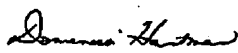
In view of the above, Applicants believe that Amano et al., Stecura, Rickerby et al., Schulz et al., Maloney and Alperine et al. do not anticipate or suggest independent claims 1 and 19 or any of their remaining dependent claims. Applicants therefore respectfully request withdrawal of the rejections under 35 USC §§102 and 103.

Serial No. 10/064,939
Docket No. 13DV-13676

Applicants believe that all issues outstanding from the Office Action have been addressed, and that the claims define patentable novelty over all the references, alone or in combination, of record. It is therefore respectfully requested that their patent application be given favorable reconsideration.

Should the Examiner have any questions with respect to any matter now of record, Applicant's representative may be reached at (219) 462-4999.

Respectfully submitted,

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